

**What is claimed is:**

1. A method for capacity reservation based on historical customer delivery data, comprising the steps of:  
5       acquiring historical customer delivery data of a plurality of customers;  
      classifying the customers into a plurality of different categories according to the historical customer delivery data; and  
10       reserving production capacity for the customers in accordance with the different categories.
2. The method as claimed in claim 1, wherein the historical customer delivery data comprises delivery time requirements corresponding to each customer.
3. The method as claimed in claim 2, wherein the  
5       delivery time requirements comprise requirements selected from the group consisting of fixed delivery time requirements, distributed delivery time requirements, and floating delivery time requirements.
4. The method as claimed in claim 1, wherein  
10       classification further comprises:  
      designating customers with fixed delivery time requirements as first category customers;

designating customers with distributed delivery  
time requirements as second category  
15 customers; and  
designating customers with floating delivery time  
requirements as third category customers.

5. The method as claimed in claim 1, wherein  
reservation further comprises:  
20 reserving capacity for the first category  
customers;  
calculating a first remaining capacity;  
reserving the first remaining capacity for the  
second category customers;  
25 calculating a second remaining capacity; and  
reserving the second remaining capacity for the  
third category customers.

6. A storage medium for storing a computer  
program providing a method of capacity reservation based  
30 on historical customer delivery data, the method  
comprising the steps of:  
acquiring historical customer delivery data of a  
plurality of customers;  
classifying the customers into a plurality of  
35 different categories according to the  
historical customer delivery data; and  
reserving production capacity for the customers in  
accordance with the different categories.

7. The storage medium as claimed in claim 6,  
wherein the historical customer delivery data comprises  
a plurality of delivery time requirements.

8. The storage medium as claimed in claim 7,  
5 wherein the delivery time requirements further comprise  
requirements selected from the group consisting of fixed  
delivery time requirements, distributed delivery time  
requirements, and floating delivery time requirements.

9. The storage medium as claimed in claim 6,  
10 wherein classification further comprises:  
designating customers with fixed delivery time  
requirements as first category customers;  
designating customers with distributed delivery  
time requirements as second category  
15 customers; and  
designating customers with floating delivery time  
requirements as third category customers.

10. The storage medium as claimed in claim 6,  
wherein reservation further comprises:  
20 reserving capacity for the first category  
customers;  
calculating a first remaining capacity;  
reserving the first remaining capacity for the  
second category customers;  
25 calculating a second remaining capacity; and

reserving the second remaining capacity for the  
third category customers.

11. A system of capacity reservation based on  
historical customer delivery data, comprising:

- 30 a customer interface configured to acquire  
historical customer delivery data of a  
plurality of customers;
- a customer database configured to store the  
historical customer delivery data of the  
35 customers;
- a controller computer, coupled to the customer  
interface and the customer database, the  
controller computer configured to classify the  
customers into a plurality of different  
40 categories according to the historical  
customer delivery data and reserving  
production capacity in accordance with the  
categories.

12. The system as claimed in claim 11, wherein the  
45 historical customer delivery data comprises a plurality  
of delivery time requirements.

13. The system as claimed in claim 12, wherein the  
delivery time requirements further comprise requirements  
selected from the group consisting of fixed delivery  
50 time requirements, distributed delivery time  
requirements, and floating delivery time requirements.

14. The system as claimed in claim 1, wherein the controller computer further designates customers with fixed delivery time requirements as first category  
55 customers, designates customers with distributed delivery time requirements as second category customers, and designates customers with floating delivery time requirements as third category customers.

15. The system as claimed in claim 11, wherein the  
60 controller computer further reserves capacity for the first category customers, and calculates a first remaining capacity, reserves the first remaining capacity for the second category customers, and calculates a second remaining capacity, and reserves the  
65 second remaining capacity for the third category customers.

16. A system of demand and capacity management, comprising:  
an allocation planning module configured to receive  
a demand plan for a product from a  
5 participating customer;  
a capacity model having route information for the product, wherein the route information records a plurality of tools; and  
a capacity management module configured to reserve  
10 capacity according to the demand plan.

17. The system as claimed in claim 16, wherein the capacity management module further comprises:

- 15 a data input module, configured to acquire historical customer delivery data of a plurality of customers;
- a classification module, configured to classify the customer into a plurality of different categories according to the historical customer delivery data; and
- 20 a reservation module, configured to reserve capacity for the customers in accordance with the different categories.

18. The system as claimed in claim 17, wherein the historical customer delivery data comprises a plurality of delivery time requirements.

19. The system as claimed in claim 18, wherein the  
5 delivery time requirements further comprise requirements selected from the group consisting of fixed delivery time requirements, distributed delivery time requirements, and floating delivery time requirements.

20. The system as claimed in claim 17, wherein the  
10 classification module further comprises:

- a first designation module, configured to designate customers with fixed delivery time requirements as first category customers;

15           a second designation module, configured to  
            designate customers with distributed delivery  
            time requirements as second category  
            customers; and

            a third designation module, configured to designate  
            customers with floating delivery time  
20           requirements as third category customers.

21. The system as claimed in claim 17, wherein the  
reservation module further comprises:

            a first reservation module, configured to reserve  
            capacity for the first category customers;

25           a first calculation module, configured to calculate  
            a first remaining capacity;

            a second reservation module, configured to reserve  
            the first remaining capacity for the second  
            category customers;

30           a second calculation module, configured to  
            calculate a second remaining capacity; and

            a third reservation module, configured to reserve  
            the second remaining capacity for the third  
            category customers.